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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/659,948	09/12/2000	Richard T. Antony	VGS-PA	6163
7590	10/05/2006		EXAMINER	
OBER / KALER c/o Royal W. Craig 120 East Baltimore Street Baltimore, MD 21202			DAY, HERNG DER	
			ART UNIT	PAPER NUMBER
			2128	

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/659,948

Applicant(s)

ANTONY, RICHARD T.

Examiner

Herng-der Day

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 20060928.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This communication is in response to Applicant's Reply ("Reply") to Office Action dated January 10, 2006, mailed May 10, 2006.

1-1. Claims 21-30 are pending.

1-2. Claims 21-30 have been examined and rejected.

### ***Drawings***

2. The replacement sheets received on May 10, 2006, are not acceptable and are objected to for the following reasons. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the Applicants will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2-1. As shown in Fig. 6, it appears that "Gets et operation and features" in step 30 should be "Get set operation and features" and "Free result ressources" in step 60 should be "Free result resources".

*Specification*

3. The Substitute Specification filed May 10, 2006, is objected to because of the following informalities. Appropriate correction is required.

3-1. To be consistent, it appears that “the (boundary) x (boundary) component”, as described in paragraph [00127], should be “the (boundary, boundary) component”.

*Claim Rejections - 35 USC § 101*

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 21-30 are rejected under 35 U.S.C. 101 because the inventions as disclosed in claims are directed to non-statutory subject matter.

5-1. Regarding claims 21-30, it appears to be directed merely to the manipulation of an abstract idea of performing Boolean operations among two regions for (boundary, boundary) indexing cell only without resulting in a practical application producing a concrete, useful, and tangible result.

In this application, what is claimed appears to be nothing more than using a computer to perform Boolean operations among two regions, which is believed to be too preliminary to convey any disclosed practical applications. As defined in the third edition of Microsoft Press Computer Dictionary (1997), **region**: 1. An area dedicated to or reserved for a particular purpose. 2. In video programming, a contiguous group of pixels that are treated as a unit. Accordingly, with the broadest reasonable interpretation, performing Boolean operations in a digital computer among two regions is a manipulation of an abstract idea without resulting in a

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practical application producing a concrete, useful, and tangible result by itself. The recited “accumulating result tuples” provides more manipulations of an abstract idea of performing Boolean operations among two regions. Furthermore, the claims recite no post-mathematical operations. In other words, all the information including accumulated result tuples would still be internal in a computer. Without any post-mathematical operation in the claims (for example, presenting or saving the results), there is no evidence any useful or tangible result has been produced in a practical application.

***Allowable Subject Matter***

6. Claims 21-30 are not taught by the prior art, and would be allowable if the above rejections under 35 U.S.C. 101 are overcome.

***Applicant's Arguments***

7. Applicant argues the following:

7-1. Claim Rejections - 35 USC §101

(1) “The claims positively recite the accumulation of result tuples that represent the product of a Boolean operation among a first and second region” (page 3, Reply).

(2) “The specification recites several examples of the utility of embodiments of the invention” (page 4, Reply).

(3) “Here, in addition to the utility recited in the claims of accumulating result tuples, the written description contains several assertions of the utility of the invention” (page 5, Reply).

(4) “In Claims 21-25, a method for performing Boolean operations in a digital computer is claimed. In Claims 26-30, a computer program product including a computer readable medium and various modules is claimed. In each case, the claims explicitly call for an interrelationship between the data structure (e.g., regions represented as vector tuples), and the computer software and hardware components (e.g., a digital computer, a computer program product) which permit the data structure’s functionality (e.g., vector tuple representation of the result of a Boolean operation between regions) to be realized, i.e., a tangible result.” (page 6, Reply).

### ***Response to Arguments***

8. Applicant’s arguments have been fully considered.

8-1. Applicant’s arguments (1)-(4) are not persuasive. While the practical application need not be explicitly recited in the claims, what is claimed must adequately convey the disclosed practical application to one of ordinary skill. In this instance, with the broadest reasonable interpretation, the region could be just an area or a contiguous group of pixels, performing Boolean operations in a digital computer among two regions is a manipulation of an abstract idea without resulting in a practical application producing a concrete, useful, and tangible result by itself. The recited “accumulating result tuples” provides more mathematical manipulations of an abstract idea of performing Boolean operations among two regions. Furthermore, the claims recite no post-mathematical operations. That means all the information including accumulated result tuples would still be internal in a computer. Without any post-mathematical operation in the claims (for example, presenting or saving the results), there is no evidence any useful or

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tangible result has been produced in a practical application. Referring to MPEP 2106, a claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible and useful. See *AT &T*, 172 F.3d at 1358, 50 USPQ2d at 1452. Likewise, a machine claim is statutory when the machine, as claimed, produces a concrete, tangible and useful result (as in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601) and/or when a specific machine is being claimed (as in *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557 (*en banc*)). For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory. However, a claimed process for digitally filtering noise employing the mathematical algorithm is statutory.

### ***Conclusion***

9. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Herng-der Day whose telephone number is (571) 272-3777. The Examiner can normally be reached on 9:00 - 17:30.


Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kamini S. Shah can be reached on (571) 272-2279. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Herng-der Day  
September 28, 2006

*H.D.*

  
KAMINI SHAH  
SUPERVISORY PATENT EXAMINER